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# **Notice of Allowability**

Application No.	Applicant(s)	
10/717,449	WANG ET AL.	
Examiner	Art Unit	
Robert J. Hoffberg	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- ☒ This communication is responsive to 2/6/2006.
- ☒ The allowed claim(s) is/are 1, 3-11.
- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - ☐ All
  - ☐ Some\*
  - ☐ None
 of the:
  - ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

- ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  - ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
- ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## **Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|   | 9. <input type="checkbox"/> Other _____  |

  
LYNN FEILD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

***Detailed Action***

***Allowable Subject Matter***

1. Claims 1, 3-11 are allowed.

The following is an examiner's statement of reasons for allowance:

The allowablility resides in the overall structure of the apparatus as recited in independent claim 1, and at least in part, because claim 1 recites a fastening structure including a "fastening structure of a heat sink having a plurality of fins spaced from each other by a first gap", "a pair of locking members", "each of the locking members including at least one resilient flap" and "a vertical plate..including the flap from a top edge and a pair of wings extending from two opposite edges".

The allowablility resides in the overall structure of the apparatus as recited in independent claim 5, and at least in part, because claim 5 recites a fastening structure including a "fastening structure to secure a heat sink to a heat generating device on a board, the heat sink includes a plurality of vertically extending fins spaced by each other by a first gap" including "a pair of blocking members, each comprising: a horizontal plate; a pair of arms extending from two opposing sides of the horizontal plate, each of the arms terminated with a hook", "a pair of loops formed on the board, the loops being positioned and configured to be engageable with the hooks", "a vertical plate extending perpendicularly from one end of the horizontal plate", "a pair of wings extending from two opposing sides of the vertical plates" and "a pair of resilient flaps extending from top edges of the wings".

The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render said independent claims 1 and 5 and all claims dependent therefrom patentable over art of record.

The closest references to the present invention are believed to be as follows:  
Gerber (US 6,130,821) teaches a fastening device (Fig. 2) to attach a "heat sinks" to a heat generating device on a board which is close to the fastening structure claimed but lacks the structure and arrangement of "loops formed on the board" and "a pair of wings" and "a pair of flaps" as in claim 5. Lee et al. (US 2003/0106670) teaches a fastening structure (Fig. 3) to attach a heat sink to a heat generating device on a board which is close to the fastening structure claimed but lacks the structure and arrangement of "loops formed on the board" and "a pair of wings" and "a pair of flaps" as in claim 5. Arrigotti et al. (US 6,734,371) teaches a heat sink fastening structure including a pair of loops and hooks.

None of the cited references, either taken alone or in combination is believed to render the present invention unpatentable as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

2. Amended specification is acceptable.

**Conclusion**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Arnold et al. (US 4,823,869) teaches a heat sink with a second gap perpendicular to the first gap with the base of the first gap descending toward the outside from the first gap. Chung (US 5,881,800), Blomquist (US 6,061,239), Seo (US 6,181,559), Lo (US 6,370,024) and Hashimoto et al. (US 2002/004424) teach heat sink fastening structures, but they lack the specific structure and arrangement of this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Hoffberg whose telephone number is (571) 272-2761. The examiner can normally be reached on 8:30 AM - 4:30 PM Mon - Fri. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJH *RJH*

*Lynn D. Feild*  
LYNN FEILD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800